

19/34
Public Works (1897) Department.

G.O., No. 17246

DATED 30 June 1897

[Despatch Abstract.]

Classification of Tool Steel. Govt of India
letter requesting that the — in the preparation
of indents, proposed by the Director General
of stores may in future be adopted
~~by all branches of the~~
P.W.D., Comd^{rs} to Officers of the Dep^{ts}.

FURTHER PAPERS.

GENERAL.
ACCOUNT.

Government {1897} of Madras.
PUBLIC WORKS.

Recd.

Regd.

1897.

Enclosures

Spare copies

G.O., No. 1724 W., 30th June 1897.

JUNE.

Classification of Tool Steel

Government of India letter requesting that the — in the preparation of indents, proposed by the Director-General of Stores, may, in future, be adopted by all branches of the Public Works Department, communicated to officers of the department.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following paper :—

From G. A. ANDERSON, Esq., Under Secretary to the Government of India, Public Works Department (Railway Stores), to the Secretary to the Government of Madras, Public Works Department, dated Simla, 2nd June 1897, Circular No. 5, Railway.

In continuation of Government of India Circular No. 1, Railway, dated 24th January 1895, I am directed to forward, herewith, copy of a report by the Director-General of Stores, dated 26th October 1896, together with a copy of the specification therein referred to regarding the classification of tool steel in the preparation of indents, which have been received from Her Majesty's Secretary of State for India.

2. The classification proposed by the Director-General of Stores in regard to demands for the general range of tool steel ordinarily required in India, has, I am to say, been accepted by the Government of India. I am accordingly to request that this classification may, in future, be adopted by all branches of the Public Works Department.

ENCLOSURES.

Report by the Director-General of Stores, dated 26th October 1896.

In preferring demands from time to time for various qualities of tool steel it has been customary for the indenting departments in India to specify the particular purpose for which each item is required.

2. The War Office has recently adopted the practice of classifying such steel under three grades, according to the temper suited for various classes of tools, and the annexed specification, drawn up on these lines is now used, with the concurrence of the Director-General of Ordnance, for steel purchased for the Ordnance Department in India.

3. It is believed that, if demands for steel required by other large indenting departments were prepared in accordance with the classification shown in the specification, the preparation of indents would be simplified, and the task of stock-keeping in India probably rendered easier.

4. It is not, of course, intended that the adoption of the proposed system should preclude the submission of demands, where necessary, for special qualities of steel supplied by certain makers for particular work, but it is suggested that the matter be brought to the notice of the Public Works and Railway Departments, so that the proposed classification may, if thought desirable, be adopted in regard to demands for the general range of tool steel ordinarily required and stocked in India.

Tool Steel for the Ordnance Department.

As different degrees of hardness and temper are necessary, to suit the special tools required for the cutting of both metals and woods, the steel will be classified in three qualities or grades, viz., "A," "B," and "C."

Grade A. High Temper.—To be suitable for turning, planing and slotting tools for operating upon special steel castings, and forgings, oil-hardened gun steel, and material of similar toughness; also for gauges of every description, taps, chasers, rimers, twist drills, milling cutters of special figures, &c.

Grade B. Medium Temper.—To be suitable for general engineering tools, other than those mentioned under the other grades; cylindrical, tubular, and ordinary milling tools; also special threading appliances, and letter and figure stamps.

Grade C. Tough Temper.—To be suitable for tools for cutting hard and soft woods, such as flying cutters, boring bits, machine cutters, gauges, &c.; also for cold chisels, &c.

Specification.

To be of the best crucible cast steel warranted from blister steel converted from Swedish bars of well selected brands, of such temper as will give the best working results for the particular grade of steel required, and carefully cast in small crucibles. Every bar is to be perfectly sound, free from defects, and is to have stamped on it the grade letter "A," "B," or "C" to show the purpose for which it is intended.

Each grade of steel when made into special tools, must admit of being brought to a suitable heat compatible with the grade of steel stipulated, and neither crumble, nor develop cracks in the forging, nor during nor after the hardening or tempering processes. Its nature when hardened and tempered must be such that it will sustain a fair amount of work in usage.

Samples will be taken from each supply, and the steel will be carefully heated and forged into tools of the class which the grade defines; these will be afterwards hardened in water, or oil, as may be considered desirable, of a temperature of 60 degrees Fahr. This treatment must produce the requisite hardness or temper, without sacrificing the elasticity or toughness of the steel.

Tools so made from it will be used to ascertain their endurance for the work for which they are required.

Samples of the steel will be taken from the bulk for testing at the contractor's works or elsewhere as may be directed by the Superintendent, India Store Depot. The steel will be made into tools and tested in such a manner as the Superintendent, India Store Depot, shall direct, and no steel will be accepted which, in the opinion of the Superintendent, India Store Depot, falls short of the tests and requirements of this specification.

No charge is to be made for the manufacture of the tools, the testing carried out at the Contractor's works, or for the samples to be tested elsewhere which, with the tools and tested samples, are to be forwarded free of charge to the Superintendent, India Store Depot.

The Superintendent, India Store Depot, is to have full power to subject every bar to any test or tests to determine if the steel is suitable for the purpose intended, should he deem it advisable to do so.

The sizes specified must be strictly adhered to, and the weights given in the schedule must in no case be exceeded. To make up the schedule weights, one shorter bar, &c., of each description will be accepted, unless the number and dimensions of the bars, &c., are specified, in addition to the weight. The schedule weights in such cases include an allowance of 5 per cent. above "book" weights, and show the maximum weight of any particular size for which payment will be made. Payment will not, however, be made for more than the actual weights.

The steel is to be in lengths of about 8 feet, unless otherwise specified, and each bar is to be stamped with the name of the maker and the mark given in the Schedule.

The steel is to be thoroughly cleansed, then weighed, and coated with the best boiled linseed oil. Unless otherwise specified in the Schedule, the steel, when dry, is to be packed in bundles not exceeding 2 cwt. each, bound round with $\frac{3}{8}$ -inch steel wire, put on hot, the ends twisted and hammered down flat. Each bundle is to have the address (as given in the Schedule) and such other descriptive and shipping marks as may be required by the Superintendent, India Store Depot, stencilled on it in metallic paint ground in oil, and of the colour or colours stated opposite each address; and each of the bars packed in bundles is to have both ends painted the same colour as the address for a length of 12 inches. The address and description of marking, with colour, are to be clearly specified in the Packing Accounts (Form 214).

When any steel is specified in the Schedule to be packed in cases, the latter are to be made and addressed, &c., in accordance with the annexed Specification of Packing Cases. No case when full to weigh more than 7 cwt.

All samples sent to the India Store Depot, Belvedere Road, Lambeth, S.E., are to be marked "Iron branch," and advised by a Delivery Note (Form 140) similarly marked.

ORDER—No. 1724 W., dated 30th June 1897.

Communicated to officers of the Public Works Department, in continuation of G.O., No. 398 W., dated 16th February 1895.

(True Extract.)

Under Secretary to Government.

To the Chief Engineer for Irrigation.
 „ the Consulting Engineer for Railways.
 „ Superintending Engineers.
 „ the Consulting Architect to Government.

Exd. T. K. Narayana Aiyangar.

Public Works (1897) Department.

CURRENT No. 5896

Order

Communicated
 to Officers of the P.W.
 Dept. in continuation
 of G.O. No. 398 W. dated
 16 Feb 1895.

Cm

Ch. S.
 29/6/97

Ch. S. for
 C. S. for
 Sup. Engrs
 C.A. of Govt.

From

The Govt. of India,
 P.W. Department

Circular No. 5 Railway.

Dated 2.6.97

Received 17.6.97

Enclosures one (+50 Spare Copies)

Spare copies 50

SUBJECT.

Forwarding copy of
 a report by the Director
 General of Stores regard-
 ing the classification
 of tool steel in the pre-
 paration of indents.

FURTHER PAI

Report by the Director-General of Stores, dated 26th October 1896.

In preferring demands from time to time for various qualities of tool steel it has been customary for the indenting departments in India to specify the particular purpose for which each item is required.

2. The War Office has recently adopted the practice of classifying such steel under three grades, according to the temper suited for various classes of tools, and the annexed specification, drawn up on these lines is now used, with the concurrence of the Director-General of Ordnance, for steel purchased for the Ordnance Department in India.

3. It is believed that if demands for steel required by other large indenting departments were prepared in accordance with the classification shown in the specification the preparation of indents would be simplified, and the task of stock-keeping in India probably rendered easier.

4. It is not, of course, intended that the adoption of the proposed system should preclude the submission of demands, where necessary, for special qualities of steel supplied by certain makers for particular work, but it is suggested that the matter be brought to the notice of the Public Works and Railway Departments, so that the proposed classification may, if thought desirable, be adopted in regard to demands for the general range of tool steel ordinarily required and stocked in India.

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[For General distribution.]

Circular No. 5 Railway.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
RAILWAY STORES.

To

THE SECRETARY TO THE GOVERNMENT OF MADRAS, PUBLIC WORKS DEPARTMENT.
THE SECRETARY TO THE GOVERNMENT OF BOMBAY, PUBLIC WORKS DEPARTMENT.
THE SECRETARIES TO THE GOVERNMENTS OF BENGAL, THE NORTH-WESTERN PROVINCES, AND OUDH, THE PUNJAB, AND BURMA, PUBLIC WORKS DEPARTMENT.
THE CHIEF COMMISSIONERS OF THE CENTRAL PROVINCES, ASSAM, AND COORG.
THE RESIDENT AT HYDERABAD.
THE RESIDENT IN MYSORE.
THE AGENTS TO THE GOVERNOR GENERAL FOR RAJPUTANA, CENTRAL INDIA, AND BALUCHISTAN.
THE ACCOUNTANT GENERAL, PUBLIC WORKS DEPARTMENT.
THE DIRECTOR GENERAL OF RAILWAYS.
THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA, FOR RAILWAYS CALCUTTA, LUCKNOW, BURMA, AND ASSAM.
THE SUPERINTENDENT OF PORT BLAIR AND CHIEF COMMISSIONER, ANDAMAN AND NICOBAR ISLANDS.
THE DIRECTOR GENERAL OF TELEGRAPHS.

Classification of tool steel in the preparation of indents.

Simla, the 2nd June 1897.

SIR,

In continuation of Government of India Circular No. 1 Railway, dated 24th January 1895, I am directed to forward herewith copy of a report by the Director General of Stores, dated 26th October 1896, together with a copy of the specification therein referred to regarding the classification of tool steel in the preparation of indents, which have been received from Her Majesty's Secretary of State for India.

2. The classification proposed by the Director General of Stores in regard to demands for the general range of tool steel ordinarily required in India, has, I am to say, been accepted by the Government of India. I am accordingly to request that this classification may in future be adopted by all branches of the Public Works Department.

I have the honour to be,

SIR,

Your most obedient Servant,

G. A. Anderson
Under Secretary.

(with 50 spare copies)
sent by Parcel Post
Documents accompanying.

Copy of report by the Director General of Stores, dated 26th October 1896, and specification therein referred to.

G. C. Press, Simla.—No. 304 P. W. D.—7-6-97—900.

To The Secretary to the Govt of Madras
13.6.97
P.W. 225/6

P.W. 225/6
5896/47

[Faint, illegible text visible through the paper, likely bleed-through from the reverse side. Some words like "to" and "the" are faintly discernible.]

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